

Claims

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1. A method for reordering a decode order into a display order of an image, the decode order comprising an I-picture (intra-coded picture), a P-picture (predictive-coded picture), and a B-picture (bi-directionally-predictive coded picture), the method obtaining a compressed picture sequence and comprising the following steps:

- (1.1) determining a first picture of the compressed picture sequence;
- (1.2) if the first picture is I-picture, decoding the first picture and storing a decoded first picture into a first buffer; and
- (1.3) obtaining a first virtual picture according to a predetermined manner, sending the first virtual picture to a second buffer for display.

2. The method of Claim 1, wherein the predetermined manner, responsive to a parameter, generates the first virtual picture using a decoded picture pre-stored in the third buffer.

3. The method of Claim 1, wherein the step (1.3) further comprises:

- (3.1) determining a second picture;
- (3.2) if the second picture is P-picture, decoding the second picture and storing a decoded second picture into a third buffer; and

(3.3) obtaining a second virtual picture according to the predetermined manner,
sending the second virtual picture to the second buffer for display.

4. The method of Claim 3, wherein the predetermined manner, responsive to a parameter, generates the second virtual picture using a decoded picture pre-stored in the first buffer.

5. The method of Claim 1, wherein the step (1.3) further comprises:

(5.1) determining a second picture;

(5.2) if the second picture is I-picture, decoding the second picture and storing a decoded second picture into a third buffer; and

(5.3) obtaining a second virtual picture according to the predetermined manner,
sending the second virtual picture to the second buffer for display.

6. The method of Claim 5, wherein the predetermined manner, responsive to a parameter, generates the second virtual picture using a decoded picture pre-stored in the first buffer.

7. A method for reordering a decode order into a display order of an image, the decode order comprising an I-picture (intra-coded picture), a P-picture (predictive-coded picture), and a B-picture (bi-directionally-predictive coded picture), the method obtaining a compressed picture sequence and comprising the following steps:

- (7.1) determining a first picture of the compressed picture sequence;
 - (7.2) if the first picture is P-picture, decoding the first picture and storing a decoded first picture into a first buffer; and
 - (7.3) obtaining a first virtual picture according to a predetermined manner, sending the first virtual picture to a second buffer for display.
8. The method of Claim 7, wherein the predetermined manner, responsive to a parameter, generates the first virtual picture using a decoded picture pre-stored in the third buffer.
9. The method of Claim 7, wherein the step (7.3) further comprises:
- (9.1) determining a second picture;
 - (9.2) if the second picture is P-picture, decoding the second picture and storing a decoded second picture into a third buffer; and
 - (9.3) obtaining a second virtual picture according to the predetermined manner, sending the second virtual picture to the second buffer for display.
10. The method of Claim 9, wherein the predetermined manner, responsive to a parameter, generates the second virtual picture using a decoded picture pre-stored in the first buffer.
11. The method of Claim 7, wherein the step (7.3) further comprises:
- (11.1) determining a second picture;

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(11.2) if the second picture is I-picture, decoding the second picture and storing a decoded second picture into a third buffer; and

(11.3) Obtaining a second virtual picture according to the predetermined manner, sending the second virtual picture to the second buffer for display.

12.The method of Claim 11, wherein the predetermined manner, responsive to a parameter, generates the second virtual picture using a decoded picture pre-stored in the first buffer.

13.A method for reordering a decode order into a display order of an image, the decode order comprising an I-picture (intra-coded picture), a P-picture (predictive-coded picture), and a B-picture (bi-directionally-predictive coded picture), the method obtaining a compressed picture sequence and comprising the following steps:

(13.1) determining a first picture of the compressed picture sequence;

(13.2) if the first picture is I-picture, obtaining a first virtual picture according to a predetermined manner, sending the first virtual picture to a first buffer for display; and

(13.3) decoding the first picture and storing a decoded first picture into a second buffer.

14.The method of Claim 13, wherein the predetermined manner, responsive to a

parameter, generates the first virtual picture using a decoded picture pre-stored in a third buffer.

15. The method of 13, wherein the step (13.3) further comprises:

- (15.1) determining a second picture;
- (15.2) if the second picture is P-picture, decoding the second picture and storing a decoded second picture into a third buffer; and
- (15.3) obtaining a second virtual picture according to the predetermined manner, sending the second virtual picture to the first buffer for display.

16. The method of Claim 15, wherein the predetermined manner, responsive to a parameter, generates the second virtual picture using a decoded picture pre-stored in the second buffer.

17. The method of Claim 13, wherein the step (13.3) further comprises:

- (17.1) determining a second picture;
- (17.2) if the second picture is I-picture, decoding the second picture and storing a decoded second picture into a third buffer; and
- (17.3) obtaining a second virtual picture according to the predetermined manner, sending the second virtual picture to the first buffer for display.

18. The method of Claim 17, wherein the predetermined manner, responsive to a parameter, generates the second virtual picture using a decoded picture pre-stored

in the second buffer.

19.A method for reordering a decode order into a display order of an image, the decode order comprising an I-picture (intra-coded picture), a P-picture (predictive-coded picture), and a B-picture (bi-directionally-predictive coded picture), the method obtaining a compressed picture sequence and comprising the following steps:

- (19.1) determining a first picture of the compressed picture sequence;
- (19.2) if the first picture is P-picture, obtaining a first virtual picture according to a predetermined manner, sending the first virtual picture to a first buffer for display; and
- (19.3) decoding the first picture and storing a decoded first picture into a second buffer.

20.The method of Claim 19, wherein the predetermined manner, responsive to a parameter, generates the first virtual picture using a decoded picture pre-stored in a third buffer.

21.The method of Claim 19, wherein the step (19.3) further comprises:

- (21.1) determining a second picture;
- (21.2) if the second picture is P-picture, decoding the second picture and storing a decoded second picture into the third buffer; and

(21.3) obtaining a second virtual picture according to the predetermined manner,
sending the second virtual picture to the first buffer for display.

22.The method of Claim 21, wherein the predetermined manner, responsive to a parameter, generates the second virtual picture using a decoded picture pre-stored in the second buffer.

23.The method of Claim 21, wherein the step (21.3) further comprises:

(23.1) determining a second picture;

(23.2) if the second picture is I-picture, decoding the second picture and storing a decoded second picture into a third buffer, and

(23.3) obtaining a second virtual picture according to the predetermined manner,
sending the second virtual picture to the first buffer for display.

24.The method of Claim 23, wherein the predetermined manner, responsive to a parameter, generates the second virtual picture using a decoded picture pre-stored in the second buffer.

25.An apparatus for reordering a decode order into a display order of an image, the decode order comprising an I-picture (intra-coded picture), a P-picture (predictive-coded picture), and a B-picture (bi-directionally-predictive coded picture), the apparatus receiving a compressed picture sequence, comprising:
a parameter generator for generating a parameter;

a motion compensator for outputting a virtual picture according to a predetermined manner;

a memory comprising:

a first buffer for storing a first decoded picture of the decode order of an image;

a second buffer for storing the virtual picture;

a third buffer for storing a second decoded picture of the decode order of an image;

a display controller, connected to the second buffer, for displaying the virtual picture.

26. The apparatus of Claim 25, wherein the motion compensator, in response to the parameter, generates the virtual picture using the first decode picture stored in the first buffer.